

IN THE CLAIMS

1. (Original) A cathode for a battery, comprising:

(a) cathode active material particles; and

(b) a metal hydroxide having a specific surface area of between 2.5+ m²/g and 100 m²/g or more, as a cathode additive,

wherein the metal hydroxide is present in an amount of greater than 0 wt% and less than 10 wt%.

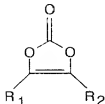
2. and 3. (Canceled)

4. (Original) The cathode for a battery according to claim 1, wherein the metal hydroxide is at least one compound selected from the group consisting of Al(OH)₃, Mg(OH)₂, Ca(OH)₂, LiOH and NaOH.

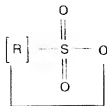
5. (Previously presented) A lithium ion battery comprising the a cathode as claimed in claim 1, an anode and a non-aqueous electrolyte, wherein the cathode comprises cathode active material particles; and a metal hydroxide having a specific surface area of between 2.5+ m²/g and 100 m²/g or more, as a cathode additive, and the metal hydroxide is present in an amount of greater than 0 wt% and less than 10 wt%.

6. (Original) The lithium ion battery according to claim 5, wherein the electrolyte comprises at least one additive selected from the group consisting of the compounds represented by the following formula 1 to formula 4:

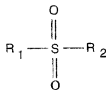
[formula 1]



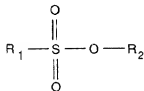
[formula 2]



[formula 3]



[formula 4]



wherein, each of R_1 and R_2 is independently selected from the group consisting of H, a C_1 - C_5 alkenyl group, a C_1 - C_5 alkyl group, a halogen atom, and a phenyl group and a phenoxy group non-substituted or substituted with a C_1 - C_5 alkyl group or a halogen atom (formulae 1, 3 and 4); and

R is a C_1 - C_5 alkenyl group or a C_1 - C_5 alkyl group (formula 2).

7. (Original) The lithium ion battery according to claim 6, wherein the compound represented by formula 1 is selected from the group consisting of VC (vinylene carbonate) and methyl esters, and the compound represented by any one of formula 2 to formula 4 is selected from the group consisting of propane sultone (PS), propene sultone, dimethyl sulfone, diphenyl sulfone, divinyl sulfone and methanesulfonic acid.

8. and 9. (Canceled).

10. (Previously presented) The lithium ion battery according to claim 5, wherein the

metal hydroxide is at least one compound selected from the group consisting of $\text{Al}(\text{OH})_3$, $\text{Mg}(\text{OH})_2$, $\text{Ca}(\text{OH})_2$, LiOH and NaOH .